

A cutting saw would never be used as a dressing tool for refurbishing the grinding face of a grinding wheel, and vice-versa. A diamond abrasive cutting saw is not a precision tool. It is a tool used for constructing highways and buildings where very aggressive cutting action is needed to groove concrete slabs, cut ceramic tiles and cut stone. Dressing tools are highly precise industrial tools made to be mounted on grinding machines and rotate against the surface of a grinding wheel so as to remove metal fines or other debris clogging the face of the grinding wheel and dulling its action. Also, the class of dressing tools claim by Applicants are rotary profile dressing tools and these are used to restore the profile of a complex grinding wheel as it begins to loose its form after grinding a number of complex workpiece parts. The grinding of camshafts for automobiles, bearing races and other precision parts is nearly always carried out with a grinding machine equipped with both a grinding wheel and a dressing wheel.

As noted on page 1, lines 10-17, prior art dressing tools are made by hand setting individual diamond abrasive grains into a cavity of a mold and then pressing powdered metal around the diamond. Other, equally difficult and expensive processes are used in the industry to make rotary dressing tools.

Thus, it was quite surprising that Applicants could achieve the precision needed for a dressing tool using the claimed construction of a single layer of diamond grains (with or without a backing element for mechanical support) or diamond film inserts in combination with an active metal braze. The active braze gives the unsupported diamond layer the mechanical strength needed to maintain the tip radius and the ability to dress the grinding wheels over a commercially acceptable life. This combination has never been suggested for rotary profile dressing tools.

The Naumann teaching to use an active braze is drawn entirely from U.S. Pat. No. 5,492,771 to Lowder et al ("Lowder"), a patent cited by Applicants in their information disclosure statement. As in the case of Matsuda, Lowder is concerned with a different class of tools, dental tools, and it suggests nothing about rotary profile dressing tools.

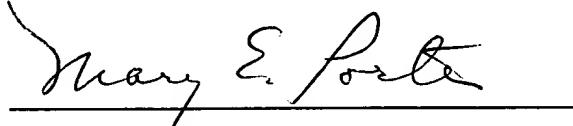
Furthermore, in Claims 11 and 12, Applicants claim a rotary profile dressing tool made with abrasive inserts designed to be mechanically fastened (e.g., bolted) onto a core

to form the dressing face. None of the references teach this construction. This innovation is a significant improvement because the precise machining of the core component needed to maintain the precise shape of the grinding wheel face is costly and the inserts can be expected to significantly reduce the cost of refurbishing these tool cores.

CONCLUSIONS

In view of the amendments and remarks submitted in this amendment, Applicants respectfully request an allowance of claims 1-12.

Respectfully submitted,



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